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Fig. 2 shows a schematic diagram of the process of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS --IN THE CLAIMS:

Original claims 1-33 were replaced during Chapter II proceedings with amended claims 1-34 in a letter dated December 17, 1996. Cancel amended claims 1-34 and insert claims 35-64 as follows:

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35. A substrate comprising a super-absorbent material applied to the substrate.

36. The substrate as claimed in claim 35, wherein the material has a significantly enlarged surface area achieved by having the super-absorbent material in the form of a plurality of discrete, substantially semi-spherical islets with a diameter between 10 and 1000 μ .

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37. The substrate as claimed in claim 35, wherein the super-absorbent material is obtainable by allowing suitable monomers to polymerize in presence of a catalyst to obtain a polymer solution, adding a cross-linking agent to the polymer solution to obtain a pasty composition, and applying the composition to the substrate.

38. The substrate as claimed in claim 35, wherein the super-absorbent material is a foam.

39. The substrate as claimed in claim 37, wherein the pasty composition is applied to the substrate in the form of discrete, substantially semi-spherical islets having a diameter of 10 to 1000 μ and is allowed to dry and cross-link.

40. The substrate as claimed in claim 37, further comprising adding a foaming agent to the pasty composition prior to applying the composition to the substrate, wherein the composition is caused to foam at any time after addition of the foaming agent.

41. The substrate as claimed in claim 37, wherein the pasty composition further comprises at least one other additive chosen from agents for changing the viscosity of the composition, agents for improving the adhesion of the super-absorbent material to the substrate, agents for softening the super-absorbent material, and agents for making the composition conductive.

42. The substrate as claimed in claim 41, wherein the agents for changing the viscosity of the composition are acrylates, polyurethane or combinations thereof.

43. The substrate as claimed in claim 41, wherein the agents for improving the adhesion of the super-absorbent material to the substrate are polyamide, polyethylene, ethylene vinyl acetate or combinations thereof.

44. The substrate as claimed in claim 41, wherein the agents for softening the super-absorbent material are plasticizers which co-polymerize in the polymer.

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45. The substrate as claimed in claim 37, wherein the cross-linking agent contains two functional groups which are capable after thermal excitation of reacting in a short time with carboxylate or carbonic acid functional groups.

46. The substrate as claimed in claim 35, wherein the composition comprises soot to make the composition conductive.

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5 47. The substrate as claimed in claim 35, wherein the super-absorbent material is obtainable by preparing a polymer solution by dissolving a polymer in an aqueous solvent, adding a cross-linking agent to the polymer solution to obtain a pasty composition, and applying the composition to the substrate.

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48. The substrate as claimed in claim 35, wherein the super-absorbent material is selected from the group consisting of a cross-linked polyacrylate, a polyamide, a cellulose-like polymer or a combination thereof.

49. The substrate as claimed in claim 35, wherein the substrate is one of a fabric, a non-woven, a paper, a film, aluminum tape, a fibre or a petrojelly-like filling compound.

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gp } 50. The substrate as claimed in claim 37, wherein the pasty composition consists of 95-99.9% by weight of an aqueous solution of pre-cross-linked poly(meth)acrylic acid and 0.1-5% by weight of a cross-linking agent.

51. A method for manufacturing a substrate, comprising the steps of: adding a cross-linking agent to a solution of a polymer to obtain a pasty composition; and applying the composition to a substrate.

52. The method for manufacturing a substrate as claimed in claim 51, further comprising the steps of applying the composition to the substrate in discrete, substantially semi-spherical islets with a diameter between 10 and 1000 μ and allowing the applied composition to dry to obtain the substrate with the super-absorbent material.

53. The method for manufacturing a substrate as claimed in claim 51, further comprising the steps of adding a foaming agent to the pasty composition, and applying the composition on the substrate, wherein the composition is caused to foam at any time after addition of the foaming agent.

54. The method for manufacturing a substrate as claimed in claim 51, wherein the polymer is formed by the step of allowing suitable monomers to be polymerized in presence of a catalyst.

56. The method as claimed in claim 51, wherein the composition is applied to the substrate by impregnating the substrate with the compositions between two rollers.

58. The method as claimed in claim 57, wherein, in the screen printing technique, use is made of a template with a form, size and distribution of openings in the template such that the composition is applied to the substrate as discrete islets.

59. The method as claimed in claim 58, wherein the form of the template openings is chosen such that the resulting islets are substantially semi-spherical.

60. The method as claimed in claim 59, wherein a diameter of the semi-spherical islets lies between 10 and 1000 μ .

61. A cable comprising a sheathing material which is formed from the substrate as claimed in claim 35.

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